SEP 13 1990

Removal Site Evaluation and Funding Authorization for a CERCLA Removal Action at the Ideal Cooperage Site, Jersey City, Hudson County, New Jersey - **ACTION MEMORANDUM**

Dan Harkay, On-Scene Coordinator
Removal Action Branch

Richard L. Caspe, P.E. Director
Emergency and Remedial Response Division

THRU: Richard Salkie, Associate Director for
Removal and Emergency Preparedness Programs

I. EXECUTIVE SUMMARY

This memorandum details the removal site evaluation of the Ideal Cooperage property and requests funding for a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) removal action at the site. The funding request will provide for sampling/analysis/disposal of solid and liquid drummed wastes and initiation of a surface and subsurface investigation to determine the extent of buried drums and contaminated soil present on the site. The funds will also support enforcement and cost recovery actions against the potentially responsible parties (PRP).

The Ideal Cooperage site was referred by the New Jersey Department of Environmental Protection (NJDEP) to the Removal Action Branch (RAB) of the United States Environmental Protection Agency (EPA) on February 3, 1989. Preliminary investigations conducted at the site began in the spring of 1989 and were completed in the fall of 1989. The total estimated cost for completing the activities outlined in this Action Memorandum is $246,000 of which $180,000 is for mitigation contracting.

Ideal Cooperage was engaged in reconditioning of industrial drums at their Jersey City facility from 1952 until 1981. In 1981, operations ceased and the facility filed for bankruptcy.

Site investigations conducted by the EPA, identified approximately 700 drums on the site. The drums are concentrated in six (6) areas, however, numerous drums are strewn throughout the site. Although, some drums have been observed to be empty, drums containing liquid and solid material were also noted and are in an advanced state of deterioration.

REVISED 9/11/90:LD

FILE:IDEAL COOPERAGE:SEB:AMGENERAL#16:07/26/90:NYDISK# 14

RAB	RAB	ADREPP	ADNJP	ERR-DD	ORC:NJSUP	ERR
HARKAY	ZACHOS	SALKIE	FRISCO	CALLAHAN	KARLEN	CASPE
DH	D.H.Zachos	D.H.Zachos, for	JS	Callahan	PK	RLC
7/27/90	7/27/90	7/27/90	7/31	9/12	9/10	9/

Laboratory analysis of samples collected by EPA, identified hazardous substances in the drums containing solids. Liquid, in one (1) drum was determined to be an acid, with a pH of less than two (2).

The conditions at the site pose a threat to public health and welfare as defined under Section 300.415(b)(2) of the National Contingency Plan (NCP). The nature of the hazardous materials on-site, (phenols, cresols, acids) present a threat of direct contact to area residents. Surface contamination, with hazardous materials, may result from spillage, due to the deteriorated condition of the drums. These factors represent a threat to public health, welfare and the environment.

II. BACKGROUND

A. Site Description

The Ideal Cooperage site is located on New York Avenue in the Town of Jersey City, New Jersey. A site location map is included as figure 1. The former three (3) acre site, was comprised of two (2) parcels of land (lot 10A and lot 11A). The parcels are situated at two (2) different elevations, separated by a 50 to 90 foot cliff. Facility buildings and drum reconditioning operations were located on the lower parcel (lot 11A). The upper parcel (lot 10A) was utilized for empty drum storage and is the subject of this Action Memorandum.

Following the sale of the lower parcel, the area was developed and is presently operated as a truck terminal. The upper parcel is undeveloped and overgrown with heavy vegetation.

Commercial and industrial zoned properties are located adjacent to the site. The nearest residential area is located approximately 1,000 feet to the west and northwest of the site. Except for the south boundary of the property, which is parallel to the Erie Lackawanna Railroad, the site is totally enclosed within a chain-link fence. A site map is included as figure 2.

B. History

Ideal Cooperage operated at the Jersey City site for approximately 28 years, beginning in 1952. In 1964, Ideal Cooperage purchased the property it had leased, from the New York Central Railroad Company. The site included a two (2) lot parcel, situated on a tiered portion of land. Lot 10A is located at an elevation of 50 to 90 feet above lot 11A.

Facility operations, included washing and reconditioning used steel drums, for the chemical industry. Drum reconditioning activities were conducted on the lower parcel of the property.

The upper parcel of property was utilized for empty drum storage. Site operations continued until 1981, when the facility filed for bankruptcy.

a. Lot 11A

In 1982, lot 11A was sold by Ideal Cooperage to Brink Transportation Corporation. Brink demolished all existing structures, regraded the site and constructed new buildings for use as a trucking terminal. The Brink Transportation Corporation property was purchased by 3-25 New York Avenue Corporation in 1987 following bankruptcy proceedings of Brink Transportation Corporation. 3-25 New York Avenue Corporation modified the site in 1989, with the construction of additional facility structures. The facility continues to operate as a truck terminal under the name of Sal-Son Trucking Company. The operational history of lot 11A is addressed, since the parcel was formerly owned by Ideal Cooperage, and has been subject to numerous investigations by NJDEP. An EPA removal action for this parcel is not proposed.

b. Lot 10A

Ideal Cooperage owned lot 10A until 1984 when the property was purchased by the former principals of the Company. The current property owners are Maria Monck, and Richard Pascale.

In 1985, a prospective purchaser of the property retained a private consultant to conduct a subsurface soil investigation on the site. The investigation identified low levels of toluene, tetrachloroethylene and petroleum hydrocarbons.

Following cessation of facility operations, the property was subject to unauthorized dumping of residential and commercial trash and debris.

In 1988, the Jersey City Incineration Authority initiated a cleanup of solid waste in the vicinity of the site in preparation for the proposed reconstruction of New York Avenue. The cleanup program resulted in the removal of 17 roll-off containers of assorted debris.

Reconstruction of New York Avenue began in 1989. The project included widening and resurfacing of the original road, storm sewer and catch basin replacement, installation of the chain-link fence along the road right of way, and regrading portions of the surrounding property. The reconstruction of New York Avenue, and installation of the chain-link fence, resulted in limiting public access to the site via New York Avenue and decreased illegal dumping.

C. Quantity and Types of Substances Present

An assessment of the site was conducted by EPA Removal Action Branch (RAB) and the Technical Assistance Team (TAT) during the month of November 1989. The investigation included collection of samples from drums containing solids and liquids, for field and laboratory analysis.

Samples collected from the drummed solids were analyzed for target compound list (TCL) parameters. Field analysis, was performed using Haz Cat analytical methods to determine pH, solubility and flammability. The investigation identified approximately 700 drums on the site. Many drums are lined with a plastic insert. Laboratory analysis, of the sample collected from the drums containing solids, identified listed CERCLA hazardous substances [40 CFR 302, Table 302.4] that include pentachlorophenol, phenol, 2,4,6 trichlorophenol, chrysene and butyl benzyl phthalate. The health effects of these compounds are shown on table 3. Field analysis of samples collected, identified an acid with a pH less than 2 in one (1) drum containing liquid. The results of the laboratory and field analysis are summarized on table 1 and 2.

D. National Priorities List

This site is not ranked on the National Priorities List (NPL), nor is it proposed to be included on the NPL.

E. State and Local Authorities Roles

The site has been subject to numerous inspections by the EPA, NJDEP, the County Health Department and the Jersey City Fire Department since the late 1970's. The inspections primarily focused on the facilities' drum reconditioning operations which were conducted on the lower parcel of land (Lot 11A).

In 1988, the NJDEP Division of Hazardous Waste Management drafted a directive requiring the owners of Lot 10A (Marie Monck and Richard Pascale) to prepare a cleanup plan addressing the removal/disposal of drums and hazardous materials on the site (Lot 10A). Available site information indicates that the directive was never finalized and issued to the responsible parties.

To date, the only cleanup activities conducted in the area of the site by governmental officials has been the reconstruction of New York Avenue. The road improvement project, implemented by the city of Jersey City, involved resurfacing New York Avenue, removal of trash and debris from New York Avenue and portions of the site and installation of a fence along New York Avenue, adjacent to the site.

The NJDEP Division of Waste Management referred the site to EPA RAB on February 3, 1989. The NJDEP referral letter included in the Attachment.

III. THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

A. Threat of Exposure to the Public and Environment

Installation of a chain-link fence around the northwest portion of the property has partially limited access, however, neighborhood children continue to visit the site. This situation was observed during recent site inspections conducted by EPA and TAT. The presence of a fort, constructed of drums, further indicates that the site is actively used by children as a play area. The majority of the drums on the site are in poor condition. Drums identified to contain hazardous substances are situated in the immediate vicinity of the fort. The contents of these drums is accessible, since some of the drums are missing lids or have been vandalized. Due to the condition of the drums and the nature of the materials present, a serious threat of exposure, by direct contact exists to any person who enters the site. Furthermore, since the drums are in poor condition, continued deterioration will result in spillage of material into the environment causing contamination of surface and subsurface soil.

B. Evidence of Extent of Release

Although soil sampling has not been conducted, the release of hazardous substances is suspected, since residues were observed in the vicinity of the drums containing solid material.

C. Previous Action to Abate Threat

To date, the only activities completed in the vicinity of the site has been the reconstruction of New York Avenue. As a result of the road improvement project, surface trash and debris was removed from the site and a chain-link fence was installed adjacent to the property, along New York Avenue.

IV. ENFORCEMENT

The present owners of the property, as listed in Jersey City tax documents are Marie Monck and Richard Pascale. Mrs. Monck and Mr. Pascal, who reside in North Arlington, NJ were the owners/operators of the Ideal Cooperage facility. Attorneys representing the PRPs were advised of EPAs proposed removal activities, and requested to meet with EPA to discuss property cleanup options. On March 9, 1990, EPA met with the PRP's Attorney, the prospective purchaser of the property and the

purchasers environmental consultant. The PRPs Attorney indicated the cleanup would possibly be conducted by the PRP and a work plan detailing the cleanup activities proposed, would be provided to EPA for review. Since the meeting, EPA has not received a workplan from the PRP indicating that the property will be cleaned up.

The NJDEP Bureau of State Case Management has informed EPA that an Administrative Consent Order is being prepared to be issued to Mrs. Monck and Mr. Pascale (owners of Lot 10A) and to the 3-25 New York Avenue Corporation (owner of Lot 11A) to implement a Remedial Investigation and Feasibility Study on their respective properties.

An Administrative Order for the site has been prepared by EPA, and is being reviewed by the Office of Regional Counsel.

V. PROPOSED ACTIONS AND COSTS

A. Proposed Actions

The proposed removal action is to eliminate the threat of direct contact with drummed hazardous substances and to implement a surface and subsurface investigation to identify buried drums and soil contamination. The project objectives can best be accomplished by disposing of the drums containing liquid and solid hazardous materials, and removal of buried drums and/or contaminated soil if warranted. The surficial cleanup program and subsurface investigation will be implemented using a phased approach. Phase I activities will include site preparation, staging and segregating drums based on field screening techniques, excavation of test pits and collection of soil samples for laboratory analysis. Phase II activities will involve bulking and disposal of hazardous materials, crushing and disposal of all empty drums and containers and excavation and removal of contaminated soil and buried drums if warranted. All hazardous materials will be disposed at a RCRA permitted facility in compliance with state and federal regulations. Prior to disposal, all drums will be staged in a secured manner.

Although a long term cleanup plan at the site is not anticipated at this time under this removal action, the actions proposed are consistent, as stated below, with the requirements of Section 104(a)(2) of CERCLA which states that "any removal action undertaken should, to the extent practicable, contribute to the efficient performance of any long term remedial action with respect to the release or threatened release concerned."

The phase I and phase II removal actions will eliminate the release or potential release of hazardous substances in drums and in surface soil on the site into the environment. The proposed

removal action will remove the surficial threats. Since the proposed actions would be part of any future remedial work, the planned work is consistent with any long term remedial action.

B. Estimated Costs

The disposal characteristic analyses of the drummed materials have not been completed, therefore, accurate disposal costs cannot be provided. However, an estimate has been developed so that work at the site can begin. The estimated cost for the removal/disposal of the drummed materials and the surface and subsurface soil investigation are summarized below and detailed in Appendix A.

I.	EXTRAMURAL COSTS	
	A. Mitigation Contractor Costs	$149,594
	20% Contingency	$ 29,919
	Total Extramural Costs	$179,513
	B. TAT COSTS	$ 22,750
	Subtotal Extramural Costs	$202,323
	15% Contingency	$ 30,348
	Total Extramural Costs	$232,671
II.	INTRAMURAL COSTS	
	Intramural Direct Costs	$ 4,125
	Intramural Indirect Costs	$ 8,500
	Total Intramural Costs	$ 12,625
	TOTAL REMOVAL PROJECT CEILING	$245,788
	ROUNDED REMOVAL CEILING ESTIMATE	$246,000

C. Project Schedule

Weather permitting, the removal action at the former Ideal Cooperage site will begin within three (3) weeks following approval of this Action Memorandum. The anticipated duration of the on-site activities will be approximately three (3) weeks, depending on the nature of the drum contents. Off-site disposal may require several months to coordinate.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD NO ACTION BE TAKEN OR ACTION BE DELAYED

The removal actions discussed in this Action Memorandum are proposed to address the human threat of exposure to hazardous

materials, the environmental threat of spillage of hazardous materials into the environment and the physical threat present with deteriorated drums, haphazardly stockpiled, on the site. Investigations have confirmed that the site is routinely used by children as a play area. Should no action be taken at the site, children using the site risk personal harm from exposure to hazardous substances and deteriated drums. Furthermore, due to the poor conditions of the drums, spillage of hazardous materials will occur, causing further contamination of surface and subsurface soil.

VII. RECOMMENDATIONS

Conditions at the Ideal Cooperage site meet the criteria for a removal action under the NCP Section 300.415(b)(2). Qualifying criteria include the following:

i. Actual or potential exposure to hazardous substances or pollutants or contaminants of nearby populations, animals, or food chains;

ii. Hazardous substances or pollutants in drums, barrels, tanks or other bulk storage containers that pose a threat of release;

Based on these conditions, I recommend your approval of the proposed action described above to mitigate the risk to the public. The estimated cost for this project is $246,000 of which $180,000 is for mitigation contractor costs.

There are sufficient monies in our current Advice of Allowance to fund this project.

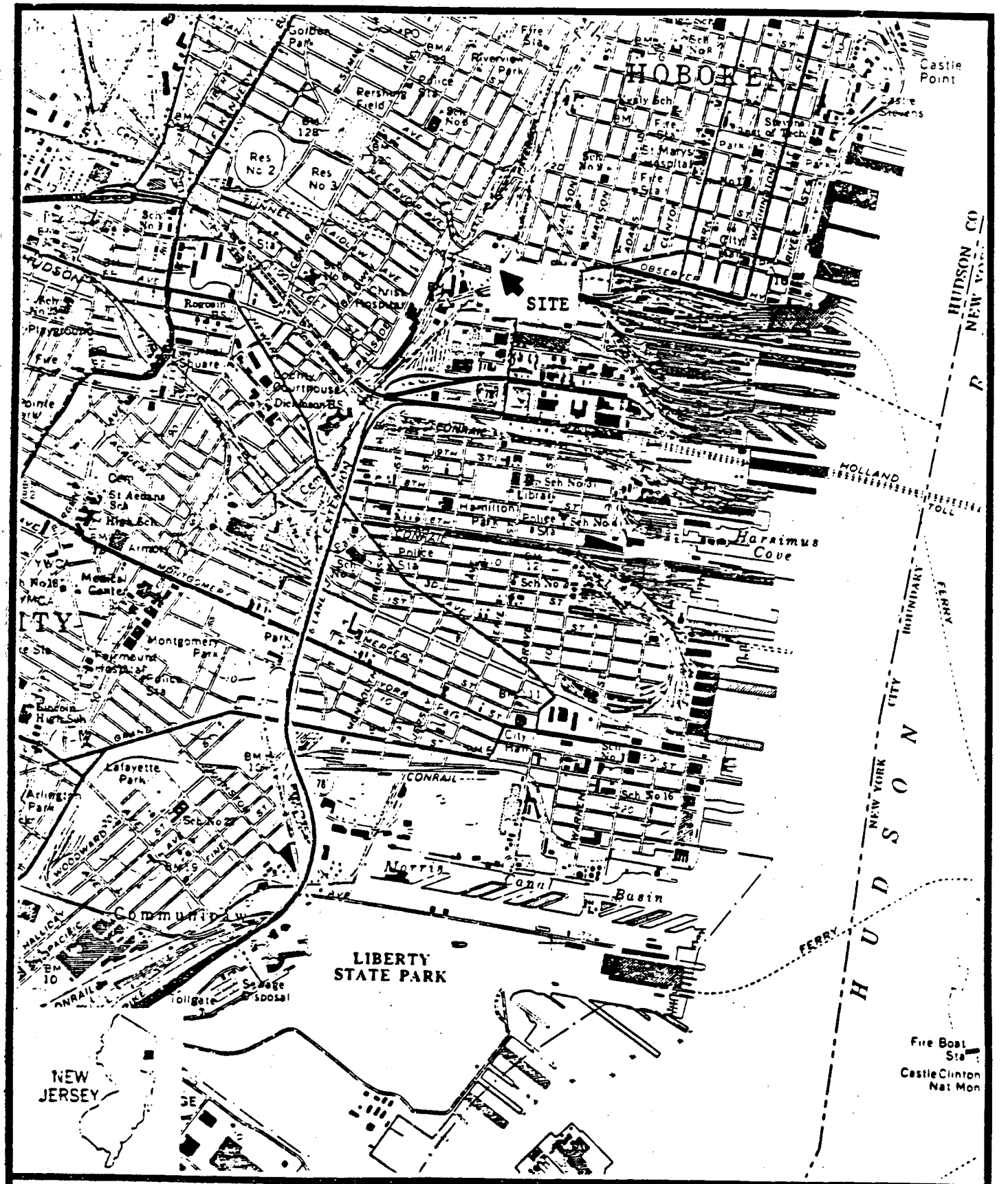
Please indicate your approval per current Delegation of Authority, by signing below.

Approved:_____ Date:_____
Richard L. Caspe, P.E., Director
Emergency and Remedial Response Division

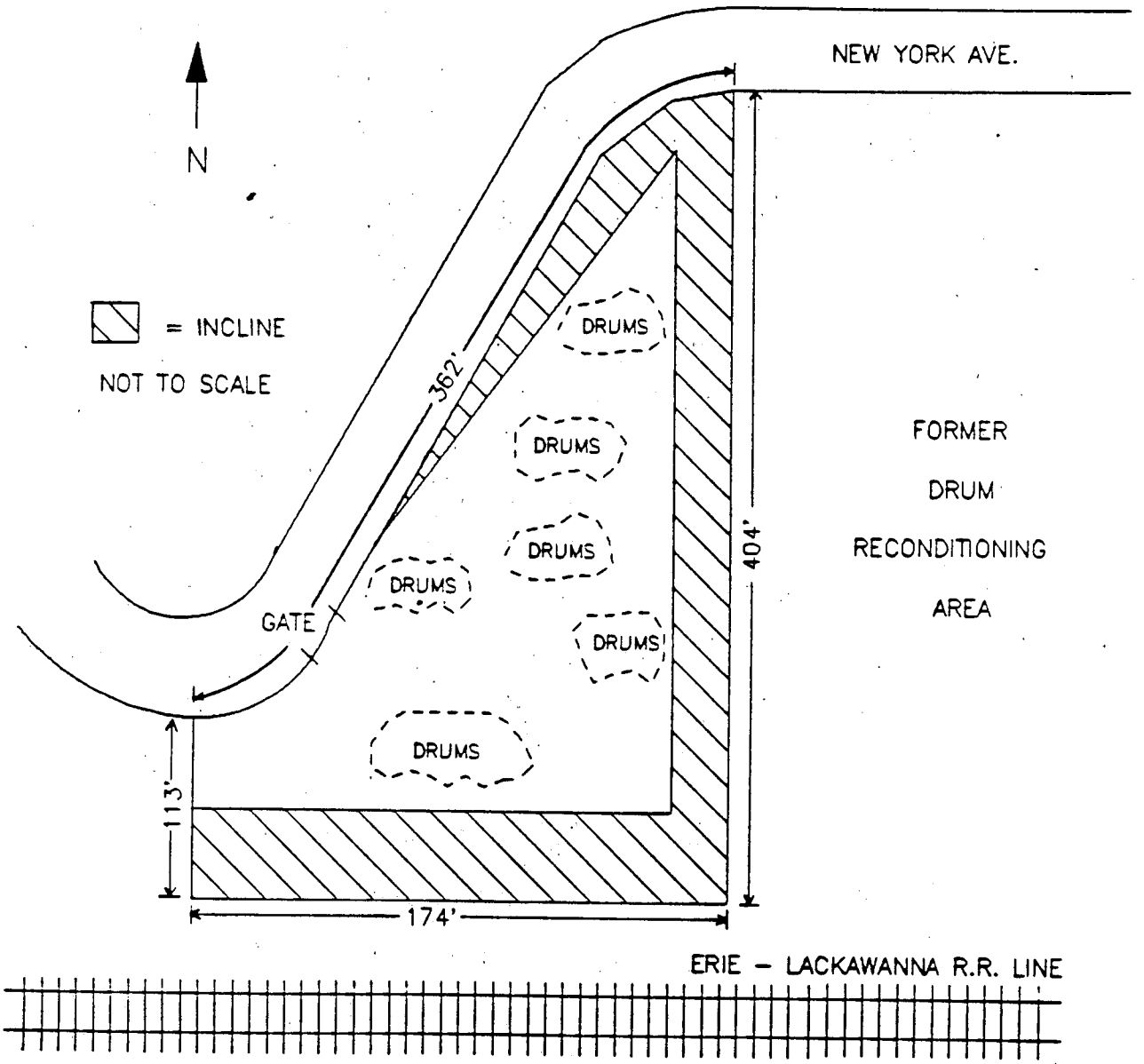
Disapproved:_____ Date:_____
Richard L. Caspe, P.E., Director
Emergency and Remedial Response Division

cc: (after approval is obtained)
C. Sidamon-Eristoff, RA
R. Caspe, ERR
R. Salkie, ERR-ADREPP
G. Zachos, ERR-RAB
J. Frisco, ERR-ADNJP
J. Marshall, OEP
D. Karlen, ORC-NJSUP
S. Anderson, PM-214F (Exp. Mail)
S. Luftig, OS-210
J. Trela, NJDEP
C. Moyik, ERRD-PS
L. Guarneiri, OS-210
J. Rosianski, OEP
D. Henne, TATL
R. Gherardi, OPM-FIN

MAPS AND FIGURES



WESTON SPILL PREVENTION & EMERGENCY RESPONSE DIVISION	EPA PM J. ROTOLA / D. HARKAY	FIGURE 1 SITE LOCATION MAP
In Association with ICF Technology Inc., C.C. Johnson & Associates, Inc., Resource Applications, Inc., Geo/Resource Consultants, Inc., and Environmental Toxicology International, Inc.	TAT PM P. DI PASCA	IDEAL COOPERAGE JERSEY CITY, NJ



WESTON SPILL PREVENTION & EMERGENCY RESPONSE		EPA PM J. ROTOLA / D. HARKAY	FIGURE 2 SITE MAP
In Association with ICF Technology Inc., C.C. Johnson & Malhotra, P.C., Resource Applications, Inc. and R.E. Sarriera Associates		TAT PM P. DI PASCA	IDEAL COOPERAGE JERSEY CITY, NJ

REQUEST LETTER

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
John J. Trela, Ph.D., Director
401 East State St.
CN 028
Trenton, N.J. 08625-0028
(609)633-1408

Michele M. Putnam
Deputy Director
Hazardous Waste Operations

Lance R. Miller
Deputy Director
Responsible Party Remedial Action

FEB 0 3 1989

Stephen Luftig, Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
26 Federal Plaza
New York, New York 10278

Dear Director Luftig:

Re: Removal Request - Ideal Cooperage
New York Avenue
Jersey City, New Jersey

The New Jersey Department of Environmental Protection hereby submits the Ideal Cooperage site for CERCLA removal action consideration. The following information details the case history and supports the removal request.

The Ideal Cooperage site is a former drum reconditioning facility located on three acres in the northeast corner of Jersey City, Hudson County. The site is divided by a sharp geological gradient into a lower half (Block 712, Lot 11A), now owned by a trucking company, and an upper half (Block 712, Lot 10A), an undeveloped section used for drum storage where 500-700 drums remain.

Although most drums on the upper half are empty, a number contain unknown liquid or solid materials. Some drums are leaking or unsecured. The site is accessible to the public and is regularly used for dumping of garbage and as a short-cut for pedestrians. Local children are known to play at the site and have built a "fort" out of empty drums. Thus there is a high potential for exposure to these unknown substances.

The current principals of Ideal Cooperage are Marie Monck, widow of the former owner, George Monck, and Oreste J. Pascale who served as the company vice president. The NJDEP is currently preparing a Directive to be issued in early February and is also conducting an investigation to identify additional responsible parties.

This site has received preliminary approval of the USEPA Response and Prevention Branch in Edison; please advise me of your final determination. Should your staff require additional information, please have them contact Ken Kloo of the Bureau of Planning and Assessment at (609) 633-2219. Thank you again for your continued cooperation.

Very truly yours,

John J. Trela, Ph.D.
Director

KK:mz

c: Richard Salkie, USEPA

ANALYTICAL RESULTS

SAMPLING RESULTS SUMMARY FOR DRUMMED SOLID MATERIAL
IDEAL COOPERAGE SITE
JERSEY CITY, HUDSON COUNTY, NEW JERSEY

	LAB BLANK (UG/L)	FIELD BLANK (UG/L)	SAMP 001 DRUM MAT (UG/KG)	SAMP 002 DRUM MAT (UG/KG)
VOLATILES ORGANICS				
METHYL CHLORIDE	ND	ND	ND	ND
METHYL BROMIDE	ND	ND	ND	ND
VINYL CHLORIDE	ND	ND	ND	ND
CHLOROETHANE	ND	ND	ND	ND
METHYLENE CHLORIDE	ND	ND	ND *	ND *
ACETONE	ND	ND	ND	ND
CARBON DISULFIDE	ND	ND	ND	ND
1,1-DICHLOROETHYLENE	ND	ND	ND *	ND *
1,1-DICHLOROETHANE	ND	ND	ND *	ND *
1,2-TRANS DICHLOROETHYLENE	ND	ND	ND *	ND *
CHLOROFORM	ND	ND	ND *	ND *
1,2-DICHLOROETHANE	ND	ND	ND *	ND *
2-BUTANONE	ND	ND	ND	ND
1,1,1-TRICHLOROETHANE	ND	ND	ND *	ND *
CARBON TETRACHLORIDE	ND	ND	ND *	ND *
VINYL ACETATE	ND	ND	ND	ND
DICHLOROBROMOMETHANE	ND	ND	ND *	ND *
1,2-DICHLOROPROPANE	ND	ND	ND *	ND *
1,3-DICHLOROPROPYLENE	ND	ND	ND	ND
TRICHLOROETHYLENE	ND	ND	ND *	ND *
CHLORODIBROMOMETHANE	ND	ND	ND *	ND *
1,1,2-TRICHLOROETHANE	ND	ND	ND *	ND *
BENZENE	0.06 M	ND	ND *	ND *
CIS-1,3-DICHLOROPROPENE	ND	X	ND	ND
BROMOFORM	ND	ND	ND *	ND *
4-METHYL-2-PENTANONE	ND	ND	ND	ND
TETRACHLOROETHYLENE	ND	ND	ND *	ND *
1,1,2,2-TETRACHLOROETHANE	ND	ND	ND *	ND *
2-HEXANONE	ND	ND	28000	24000
TOLUENE	ND	ND	ND *	ND *
CHLOROBENZENE	ND	ND	ND *	ND *
ETHYLBENZENE	ND	ND	ND *	ND *
STYRENE	ND	X	ND	ND
XYLENES (TOTAL)	ND	X	ND	ND
TENTATIVELY IDENTIFIED COMPOUNDS				
6-METHYL-2-HEPTANONE	X	X	18000 J	21000 J
2-NONANONE	X	X	1400000 J	X
2-HEPTANONE	X	X	450000 J	440000 J

	LAB BLANK (UG/L)	FIELD BLANK (UG/L)	SAMP 001 DRUM MAT (UG/KG)	SAMP 002 DRUM MAT (UG/KG)
BASE NEUTRALS				
2-CHLOROPHENOL	ND	ND	ND *	ND *
2-NITROPHENOL	ND	ND	ND *	ND *
PHENOL	ND	ND	ND *	6500 M
2,4-DIMETHYLPHENOL	ND	ND	ND *	ND *
2,4-DICHLOROPHENOL	ND	ND	ND *	ND *
2,4,6-TRICHLOROPHENOL	ND	ND	ND *	4000 M
P-CHLORO-M-CRESOL	ND	ND	ND *	13000 M
2,4-DINITROPHENOL	ND	ND	ND	ND
4,6-DINITRO-O-CRESOL	ND	ND	ND *	ND *
PENTACHLOROPHENOL	ND	ND	13000 M	62000 M
4-NITROPHENOL	ND	ND	ND	ND
1,3-DICHLOROBENZENE	ND	ND	ND *	ND *
1,4-DICHLOROBENZENE	ND	ND	ND *	ND *
1,2-DICHLOROBENZENE	ND	ND	ND *	ND *
HEXACHLOROETHANE	ND	ND	ND *	ND *
HEXACHLOROBUTADIENE	ND	ND	ND *	ND *
1,2,4-TRICHLOROBENZENE	ND	ND	ND *	ND *
NAPHTHALENE	ND	ND	ND *	ND *
BIS(2-CHLOROETHYL) ET.	ND	ND	ND *	ND *
BIS(2-CHLOROETHOXY) METH.	ND	ND	ND *	ND *
ISOPHORONE	ND	ND	ND *	ND *
NITROBENZENE	ND	ND	ND *	ND *
N-NITROSODI-N-PROPYLAMINE	ND	ND	ND *	ND *
N-NITROSODIPHENYLAMINE	ND	ND	ND *	ND *
BIS(2-CHLOROISOPROPYL) ET.	ND	ND	ND *	ND *
HEXACHLOROCYCLOPENTADIENE	ND	ND	ND *	ND *
2-CHLORONAPHTHALENE	ND	ND	ND *	ND *
ACENAPHTHYLENE	ND	ND	ND *	ND *
ACENAPHTHENE	ND	ND	ND *	ND *
FLUORENE	ND	ND	ND *	ND *
HEXACHLOROBENZENE	ND	ND	ND *	ND *
4-BROMOPHENYL PHENYL ET.	ND	ND	ND *	ND *
PHENATHRENE	ND	ND	ND *	ND *
ANTHRACENE	ND	ND	ND *	ND *
DIMETHYL PHTHALATE	ND	ND	ND *	ND *
DIETHYL PHTHALATE	0.2 M	ND	ND *	ND *
DI-N-BUTYLPHTHALATE	0.6 M	ND	ND *	ND *
BUTYL BENZYL PHTHALATE	ND	ND	ND *	4800 M
DI-N-OCTYL PHTHALATE	ND	ND	ND *	ND *
BIS(2-ETHYLHEXYL) PHTHAL.	0.9 M	ND	ND *	ND *
FLUORANTHENE	ND	ND	ND *	ND *
PYRENE	ND	ND	ND *	ND *
CHRYSENE	ND	ND	ND *	8000 M
1,2-BENZANTHRACENE	ND	ND	ND *	6500 M
4-CHLOROPHENYL PHENYL ET.	ND	ND	ND *	ND *
INDENO(1,2,3-C,D) PYRENE	ND	ND	ND *	ND *
BENZO(A)PYRENE	ND	ND	ND *	ND *
1,12-BENZOPERYLENE	ND	ND	ND *	ND *
1,2:5,6-DIBENZANTHRACENE	ND	ND	ND *	ND *
3,3'-DICHLOROBENZIDENE	ND	ND	ND *	ND *

	LAB BLANK (UG/L)	FIELD BLANK (UG/L)	SAMP 001 DRUM MAT (UG/KG)	SAMP 002 DRUM MAT (UG/KG)
BASE NEUTRALS (CONTINUED)				
2,6-DINITROTOLUENE	ND	ND	ND *	ND *
2,4-DINITROTOLUENE	ND	ND	ND *	ND *
1,2-DIPHENYLHYDRAZINE	ND	ND	ND *	ND *
3,4-BENZOFLUORANTHENE	ND	ND	ND	ND
11,12-BENZOFLUORANTHENE	ND	ND	ND	ND
BENZYL ALCOHOL	ND	ND	ND *	ND *
2-METHYL PHENOL	ND	ND	ND *	ND *
4-METHYL PHENOL	ND	ND	4000 M	4600 M
BENZOIC ACID	ND	ND	ND *	ND *
4-CHLOROANILINE	ND	ND	ND *	ND *
2-METHYL NAPHTHALENE	ND	ND	ND *	ND *
2,4,5-TRICHLOROPHENOL	ND	ND	ND *	ND *
2-NITROANILINE	ND	ND	ND *	ND *
3-NITROANILINE	ND	ND	ND *	ND *
DIBENZOFURAN	ND	ND	ND *	ND *
4-NITROANILINE	ND	ND	ND *	ND *
ANILINE	X	ND	ND *	ND *

	LAB BLANK (UG/L)	FIELD BLANK (UG/L)	SAMP 001 DRUM MAT (UG/KG)	SAMP 002 DRUM MAT (UG/KG)
PESTICIDES AND PCBs				
ALDRIN	ND	ND	ND	ND
DIELDRIN	ND	ND	ND	ND
CHLORDANE	ND	ND	ND	ND
ALPHA CHLORDANE	ND	ND	ND	ND
BETA CHLORDANE	ND	ND	ND	ND
GAMMA CHLORDANE	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND
ALPHA ENDOSULFAN	ND	ND	ND	ND
BETA ENDOSULFAN	ND	ND	ND	ND
ENDOSULFAN SULFATE	ND	ND	ND	ND
ENDRIN	ND	ND	ND	ND
ENDRIN ALDEHYDE	ND	ND	ND	ND
ENDRIN KETONE	ND	ND	ND	ND
HEPTACHLOR	ND	ND	ND	ND
HEPTACHLOR EPOXIDE	ND	ND	ND	ND
ALPHA-BHC	ND	ND	ND	ND
BETA-BHC	ND	ND	ND	ND
GAMMA-BHC	ND	ND	ND	ND
DELTA-BHC	ND	ND	ND	ND
METHOXYCHLOR	ND	ND	ND	ND
TOXAPHENE	ND	ND	ND	ND
PCB-1016	ND	ND	ND	ND
PCB-1221	ND	ND	ND	ND
PCB-1232	ND	ND	ND	ND
PCB-1242	ND	ND	ND	ND
PCB-1248	ND	ND	ND	ND
PCB-1254	ND	ND	ND	ND
PCB-1260	ND	ND	ND	ND

	LAB BLANK (UG/L)	FIELD BLANK (MG/L)	SAMP 001 DRUM MAT (MG/KG)	SAMP 002 DRUM MAT (MG/KG)
TOTAL METALS AND CYANIDES				
SILVER	X	ND	ND	ND
ALUMINUM	X	0.081 M	256.0	190.0
ARSENIC	X	ND	ND	0.5 M
BARIUM	X	ND	8.00	8.13
BERYLLIUM	X	ND	ND	ND
CALCIUM	X	0.2 M	3080	3470
CADMIUM	X	ND	ND	ND
COBALT	X	ND	7.77	7.83
CHROMIUM	X	ND	14.0	13.3
COPPER	X	ND	32.6	38.6
IRON	X	ND	4599	5678
MERCURY	X	ND	ND	ND
POTASSIUM	X	32.3 J	123.9 J	97.2 J
MAGNESIUM	X	0.2	170.0	166.0
MANGANESE	X	ND	62.3	65.9
SODIUM	X	0.34 J	2416 J	2356 J
NICKEL	X	ND	957	955
LEAD	X	ND	30.8	27.8
ANTIMONY	X	ND	ND	ND
SELENIUM	X	ND	ND	ND
THALLIUM	X	ND	ND	ND
VANADIUM	X	ND	1.37	1.25
ZINC	X	ND	81.1	78.6
CYANIDES	X	X	ND	ND

KEY:

J : INDICATES AN ESTIMATED VALUE.
M : INDICATES PRESENCE OF MATERIAL VERIFIED, BUT NOT QUANTIFIED.
ND : INDICATES COMPOUND WAS ANALYZED FOR BUT NOT DETECTED.
ND * : INDICATES COMPOUND WAS ANALYZED FOR BUT NOT DETECTED AT ELEVATED DETECTION LIMITS.
X : INDICATES COMPOUND WAS NOT ANALYZED.

Table 2

RESULTS FROM FIELD TESTING OF DRUMS AT IDEAL COOPERAGE SITE, NOVEMBER 10, 1989

SAMPLE #	SAMPLE STATE	HNU READING	WATER SOLUBILITY	HEXANE SOLUBILITY	SPECIFIC GRAVITY	PH	FLAMMABILITY TEST
T-1	LIQUID, CLEAR	0	100 %	0 %	1.000	6-7	FAILS
T-2	LIQUID, RUSTY	0	100 %	0 %	1.000	6-7	FAILS
T-3	LIQUID, RUSTY	0	100 %	0 %	1.000	6-7	FAILS
T-4	SOLID, BLACK	0	0 %	100 %	N/A	5-6	MELTS
T-5	LIQUID, SOAPY	0	100 %	0 %	NOT DONE	8	FAILS
T-6	SOLID, BLACK	0	0 %	100 %	N/A	6	MELTS
T-7	SOLID, BLACK	0	0 %	100 %	N/A	5	MELTS
T-8	LIQUID, CLEAR	150	100 %	0 %	NOT DONE	1	FAILS

OBSERVATIONS AND CONCLUSIONS:

SAMPLES T-1, T-2, T-3: DRUMS CONTAIN WATER, PROBABLY RAINWATER

SAMPLES T-4, T-6, T-7: SAMPLES HAD A CRAYON-LIKE ODOR AND WAXY CONSISTENCY AFTER FLAME TEST
DRUMS CONTAIN AN ORGANIC SOLID

SAMPLE T-5: DRUM CONTAINS WATER WITH SURFACTANT

SAMPLE T-8: SAMPLE HAD A VINEGAR ODOR;

Table 3

IDEAL COOPERAGE

Potential Health Effects For Hazardous Substances

	1. CARCINOGENIC	2. TERATOGENIC	3. MUTAGENIC	4. TOXIC BY INHALATION, INGESTION, OR DERMAL CONTACT	5. CENTRAL NERVOUS SYSTEM EFFECTS	6. EYE, SKIN, RESPIRATORY OR MUCOUS MEMBRANE IRRITANT	7. LIVER DAMAGE	8. KIDNEY DAMAGE	9. CARDIOVASCULAR DAMAGE
Pentachlorophenol		X	X	X	X	X	X	X	X
Phenol			X		X	X	X		
2,4,6 Trichlorophenol	X			X					
Butyl Benzyl Phthalate					X				
Chrysene	X				X	X			
Acid			X	X	X		X		